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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,483	06/08/2005	Arun Ramaswamy	20004/83-US	2278

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EXAMINER

AZARIAN, SEYED H

ART UNIT PAPER NUMBER

2624

DATE MAILED: 08/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Supplemental  
Notice of Allowability**

Application No.

10/538,483

Examiner

Seyed Azarian

Applicant(s)

RAMASWAMY ET AL.

Art Unit

2624

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Fax Inquiry.
2. ☒ The allowed claim(s) is/are 1-24 and 27-32, now renumbered as 1-30.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

JINGGE WU  
PRIMARY EXAMINER

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Applicants Attorney (Mr. James A. Flight, Reg No. 37,622), on July 12, 2006, without traverse.

### In the claims

Cancel claims 25 and 26.

3. Claim 27, line 1, delete -- claim 26 -- after phrase "defined in", and insert -- claim 23 -- after phrase "defined in".
4. Claim 30, line 1, delete -- claim 30 -- after phrase "defined in", and insert -- claim 23 -- after phrase "defined in".

23. (Currently Amended) A method of counting people

appearing in a digital image comprising:

reducing objects appearing in a series of images to one or more blobs;

for each individual image in a set of the images of the series of images,

representing the one or more blobs in the individual image by one or more symbols in a histogram; and

analyzing the symbols appearing in the histogram to count the people in the image

wherein representing one or more blobs in the individual image by a symbol in the histogram further comprises:

identifying one or more centers of the one or more blobs; and

placing the one or more symbols in the histogram at one or more locations indicative of the one or more centers of the one or more blobs;  
and

wherein each of the one or more symbols has a predetermined size and, further comprising, if the center of a first blob in the one or more blobs substantially corresponds to a center of a second blob in the one or more blobs, adding a symbol corresponding to the first blob to a symbol corresponding to the second blob in the histogram.

32. (Currently Amended) An apparatus to count people appearing in a digital image comprising:

a processor;

a memory storing computer readable instructions which, when executed, cause the processor to:

reduce objects appearing in a series of images to one or more blobs;

for each individual image in a set of the images of the series of images, represent the one or more blobs in the individual image by one or more symbols in a histogram; and

analyze the symbols appearing in the histogram to count the people in the image;

wherein the machine readable instructions cause the processor to represent the one or more blobs in the individual image by a symbol in the histogram by:

identifying one or more centers of the one or more blobs; and

placing the one or more symbols in the histogram at one or more locations indicative of the one or more centers of the one or more blobs;  
and

wherein each of the one or more symbols has a predetermined size and, wherein, if the center of a first blob in the one or more blobs substantially corresponds to a center of a second blob in the one or more blobs, the machine readable instructions cause the processor to add a symbol corresponding to the first blob to a symbol corresponding to the second blob in the histogram.

### **REASONS FOR ALLOWANCE**

5. The following is an examiner's statement of reasons for allowance.

Based on telephone interview and fax inquiry, filed July 12, 2006, with respect to amendment of claims 23 and 32, and cancellation of claims 25 and 26, have been fully considered and are persuasive.

Claims 1-24 and 27-32, now renumbered as 1-30 are allowed.

Based on applicant's amendment, claim 1, representing claims 11, 23, and 31-32, the closest prior art of record (Kiewit and Lu) references do not disclose or suggest, among other things, " a shape outliner to draw at least one shape based on the difference image, and a blob discriminator to determine if the at least one shape represents a person, wherein the blob discriminator comprises, a center locator to identify a center of the at least one shape, a center comparator to add a symbol representative of the center of the at least one shape to a histogram and a threshold counter to count symbols in the histogram exceeding a predetermined threshold as persons.

These key features in combination with the other features of the claimed invention are neither taught nor suggested by (Kiewit and Lu) prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

**Contact Information**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seyed Azarian whose telephone number is (571) 272-7443. The examiner can normally be reached on Monday through Thursday from 6:00 a.m. to 7:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu, can be reached at (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application information Retrieval (PAIR) system. Status information for published application may be obtained from either Private PAIR or Public PAIR.

Status information about the PAIR system, see [http:// pair-direct.uspto.gov](http://pair-direct.uspto.gov). Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Seyed Azarian*  
*Patent Examiner*  
*Group Art Unit 2624*  
July 12, 2006

JINGGE WU  
PRIMARY EXAMINER

